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thurs 5500u

AMD Ryzen 5 5500U testing with a LENOVO LNVNB161216 (GLCN22WW BIOS) and AMD Lucienne 2GB on Ubuntu 21.04 via the Phoronix Test Suite.

Automated Executive Summary

3 had the most wins, coming in first place for 47% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.003x the speed of the slowest (1). 2 was 0.999x the speed of 3 and 1 was 0.998x the speed of 2.

The results with the greatest spread from best to worst included:

Zstd Compression (Compression Level: 3, Long Mode - Compression Speed) at 1.051x
Zstd Compression (Compression Level: 8, Long Mode - Compression Speed) at 1.05x
Zstd Compression (Compression Level: 19 - Decompression Speed) at 1.033x
Zstd Compression (Compression Level: 19, Long Mode - Decompression Speed) at 1.031x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.021x
Zstd Compression (Compression Level: 8 - Compression Speed) at 1.017x
NAS Parallel Benchmarks (Test / Class: CG.C) at 1.016x
Zstd Compression (Compression Level: 8, Long Mode - Decompression Speed) at 1.013x
Zstd Compression (Compression Level: 19 - Compression Speed) at 1.013x

NAS Parallel Benchmarks (Test / Class: EP.D) at 1.012x.

Test Systems:

1

2

3

Processor: AMD Ryzen 5 5500U @ 2.10GHz (6 Cores / 12 Threads), Motherboard: LENOVO LNVNB161216 (GLCN22WW BIOS), Chipset: AMD Renoir Root Complex, Memory: 6GB, Disk: 256GB SAMSUNG MZALQ256HBJD-00BL2, Graphics: AMD Lucienne 2GB (1800/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Qualcomm Atheros QCA6174 802.11ac

OS: Ubuntu 21.04, Kernel: 5.14.0-051400rc5daily20210811-generic (x86_64) 20210810, Desktop: GNOME Shell 3.38.4, Display Server: X Server 1.20.11 + Wayland, OpenGL: 4.6 Mesa 21.2.0-devel (git-4698755 2021-07-03 hirsute-oibaf-ppa) (LLVM 12.0.0), Vulkan: 1.2.182, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8608102
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

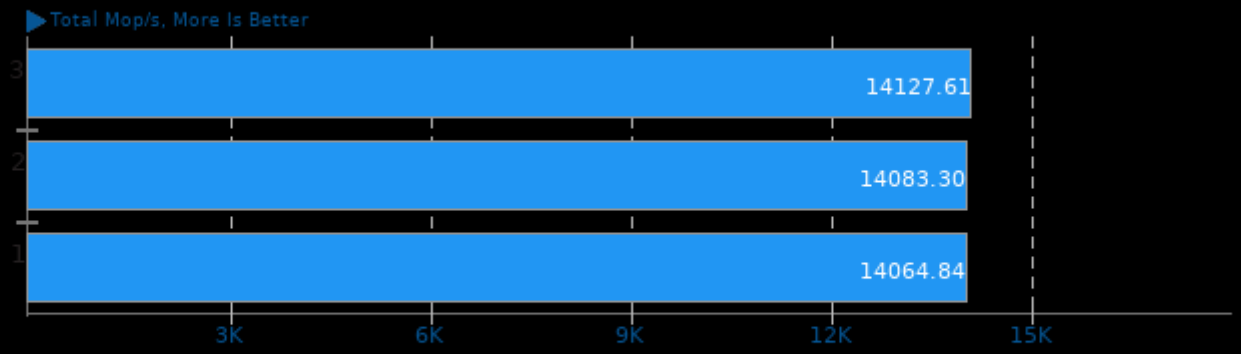
	1	2	3
NAS Parallel Benchmarks - BT.C (Mop/s)	**14065**	14083	**14128**
Normalized	99.56%	99.69%	100%
NAS Parallel Benchmarks - CG.C (Mop/s)	**4252**	4275	**4320**
Normalized	98.41%	98.96%	100%
NAS Parallel Benchmarks - EP.C (Mop/s)	**488.65**	**486.42**	487.06
Normalized	100%	99.54%	99.67%
NAS Parallel Benchmarks - EP.D (Mop/s)	**453.78**	**448.45**	449.84
Normalized	100%	98.83%	99.13%
NAS Parallel Benchmarks - LU.C (Mop/s)	15045	**15100**	**14984**
Normalized	99.63%	100%	99.23%
NAS Parallel Benchmarks - MG.C (Mop/s)	**5946**	5928	**5925**
Normalized	100%	99.7%	99.65%

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NAS Parallel Benchmarks - SP.B (Mop/s)	**3343**	**3369**	3345
Normalized	99.23%	100%	99.28%
NAS Parallel Benchmarks - SP.C (Mop/s)	**3564**	**3576**	3573
Normalized	99.67%	100%	99.92%
Zstd Compression - 3 - Compression Speed (MB/s)	1039	**1031**	**1040**
Normalized	99.92%	99.14%	100%
Zstd Compression - 8 - Compression Speed (MB/s)	**142.1**	143	**144.5**
Normalized	98.34%	98.96%	100%
Zstd Compression - 8 - D.S (MB/s)	**2902**	2927	**2932**
Normalized	98.98%	99.84%	100%
Zstd Compression - 19 - Compression Speed (MB/s)	**15.9**	**15.9**	**16.1**
Normalized	98.76%	98.76%	100%
Zstd Compression - 19 - D.S (MB/s)	2427	**2350**	**2428**
Normalized	99.93%	96.78%	100%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**178.3**	174.8	**169.6**
Normalized	100%	98.04%	95.12%
Zstd Compression - 3, Long Mode - D.S	**2993**	**2995**	2994
Normalized	99.94%	100%	99.97%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**161.3**	168.5	**169.4**
Normalized	95.22%	99.47%	100%
Zstd Compression - 8, Long Mode - D.S	**3034**	**3074**	3066
Normalized	98.7%	100%	99.72%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**14**	14.2	**14.3**
Normalized	97.9%	99.3%	100%
Zstd Compression - 19, Long Mode - D.S (MB/s)	2435	**2474**	**2399**
Normalized	98.44%	100%	96.98%

NAS Parallel Benchmarks 3.4

Test / Class: BT.C

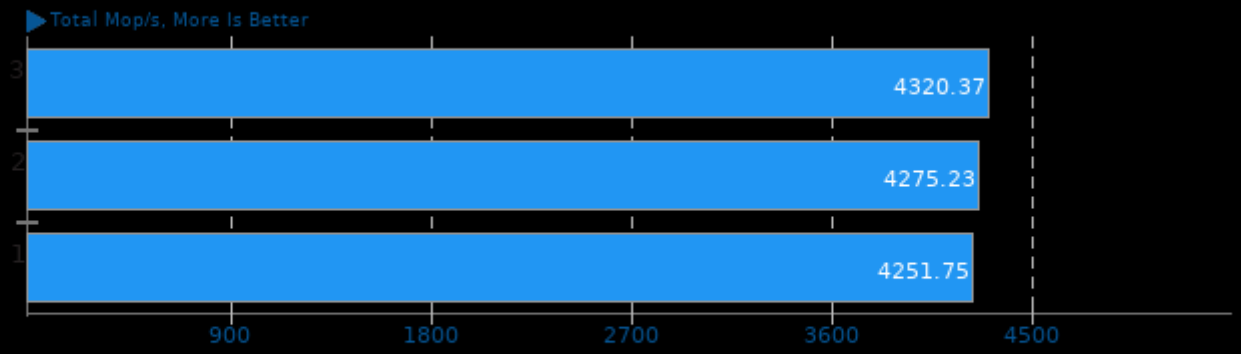


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: CG.C

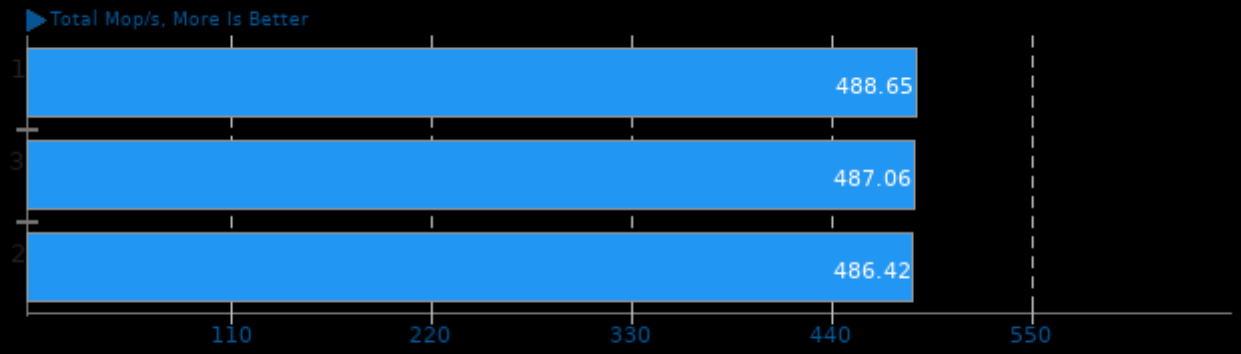


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: EP.C

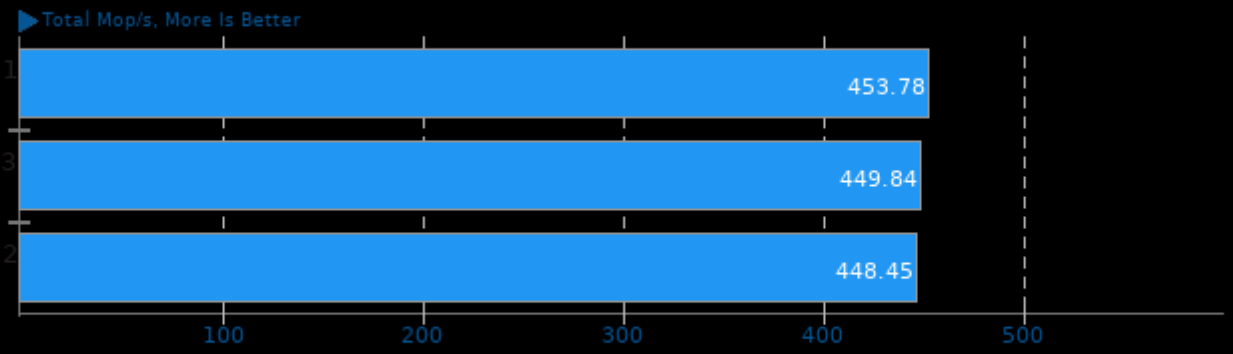


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: EP.D

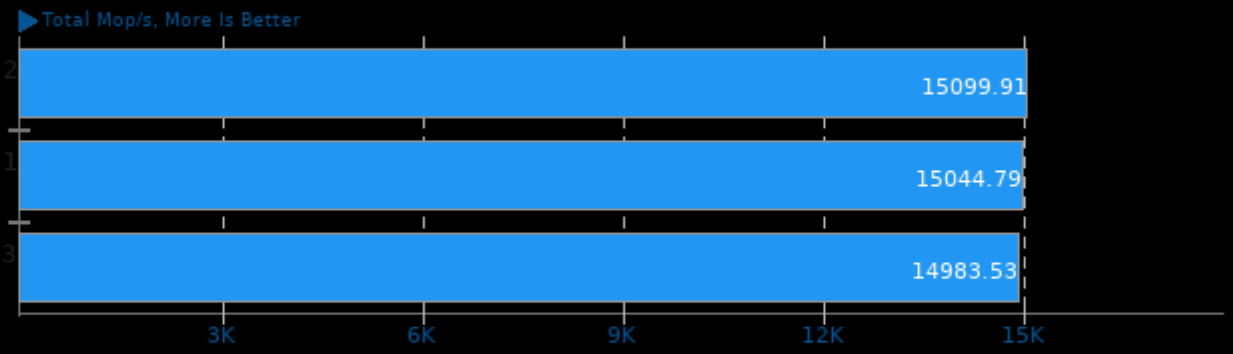


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: LU.C

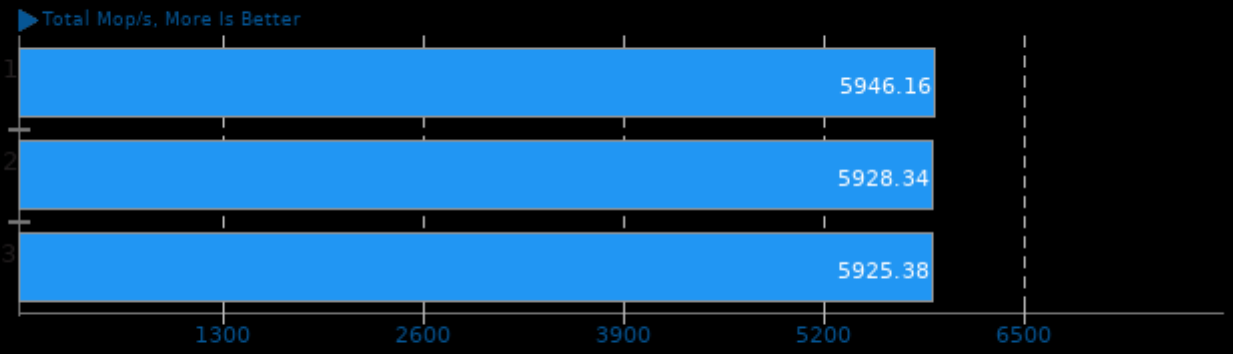


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: MG.C

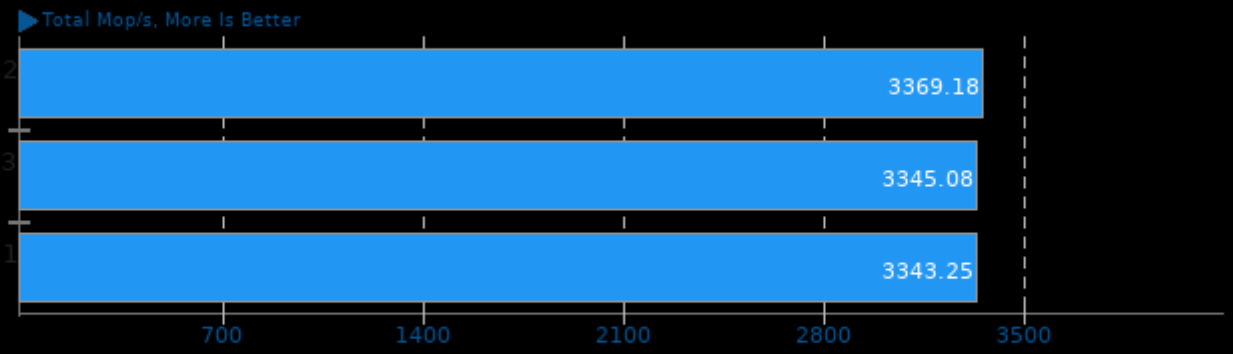


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: SP.B

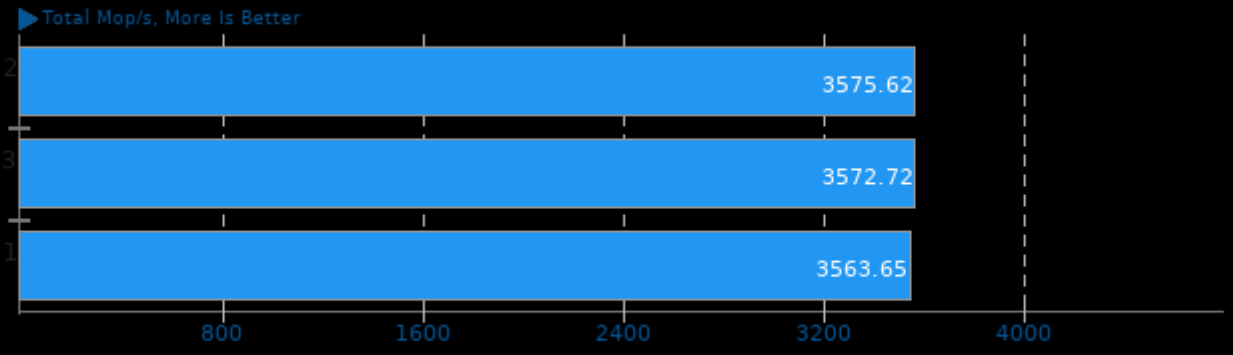


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: SP.C

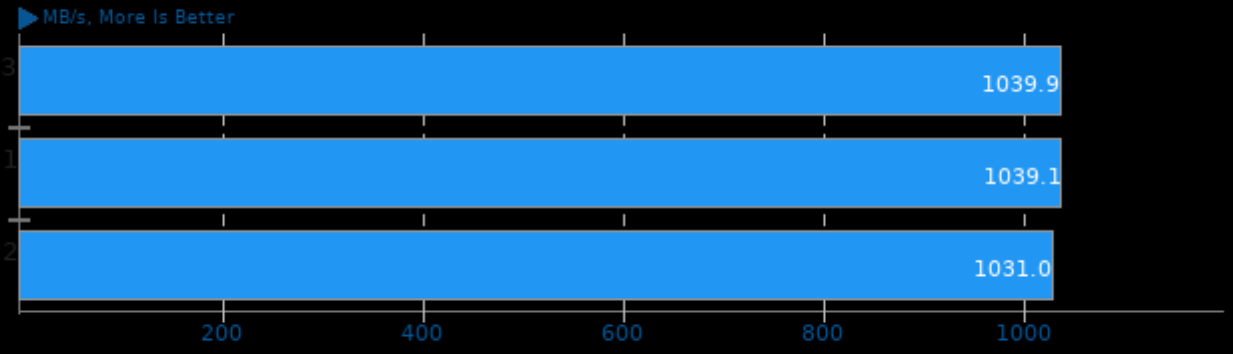


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

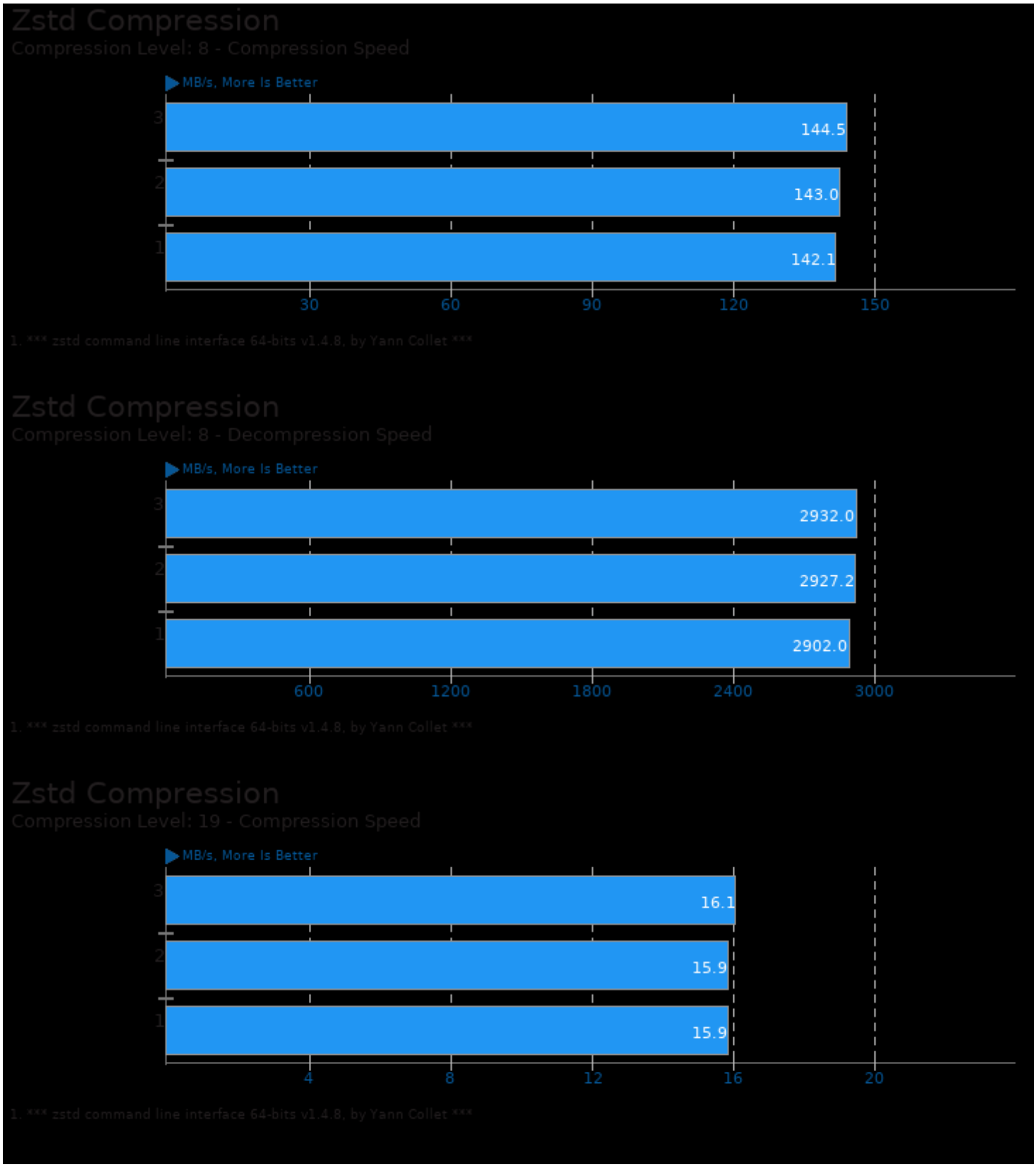
2. Open MPI 4.1.0

Zstd Compression

Compression Level: 3 - Compression Speed

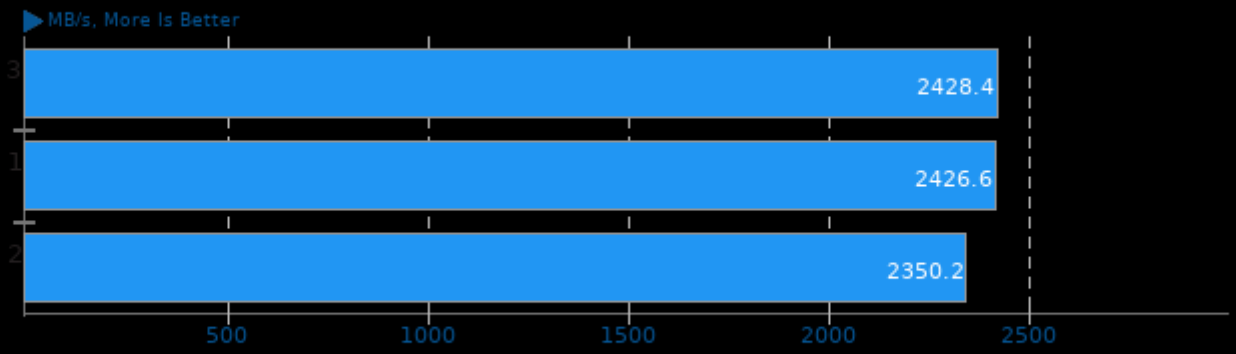


1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***


Zstd Compression
Compression Level: 8 - Compression Speed
MB/s, More Is Better
3
2
1
144.5
143.0
142.1
30
60
90
120
150
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
3
2
1
2932.0
2927.2
2902.0
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19 - Compression Speed
MB/s, More Is Better
3
2
1
16.1
15.9
15.9
4
8
12
16
20
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

Zstd Compression

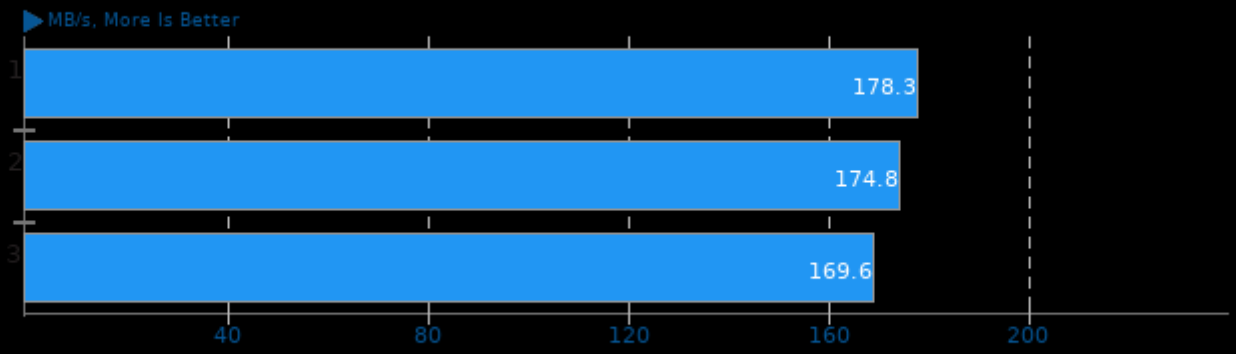
Compression Level: 19 - Decompression Speed



1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

Zstd Compression

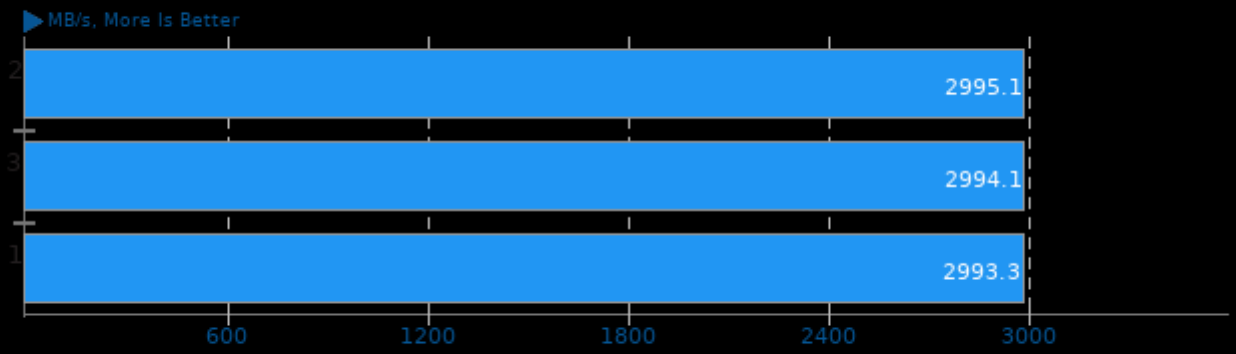
Compression Level: 3, Long Mode - Compression Speed



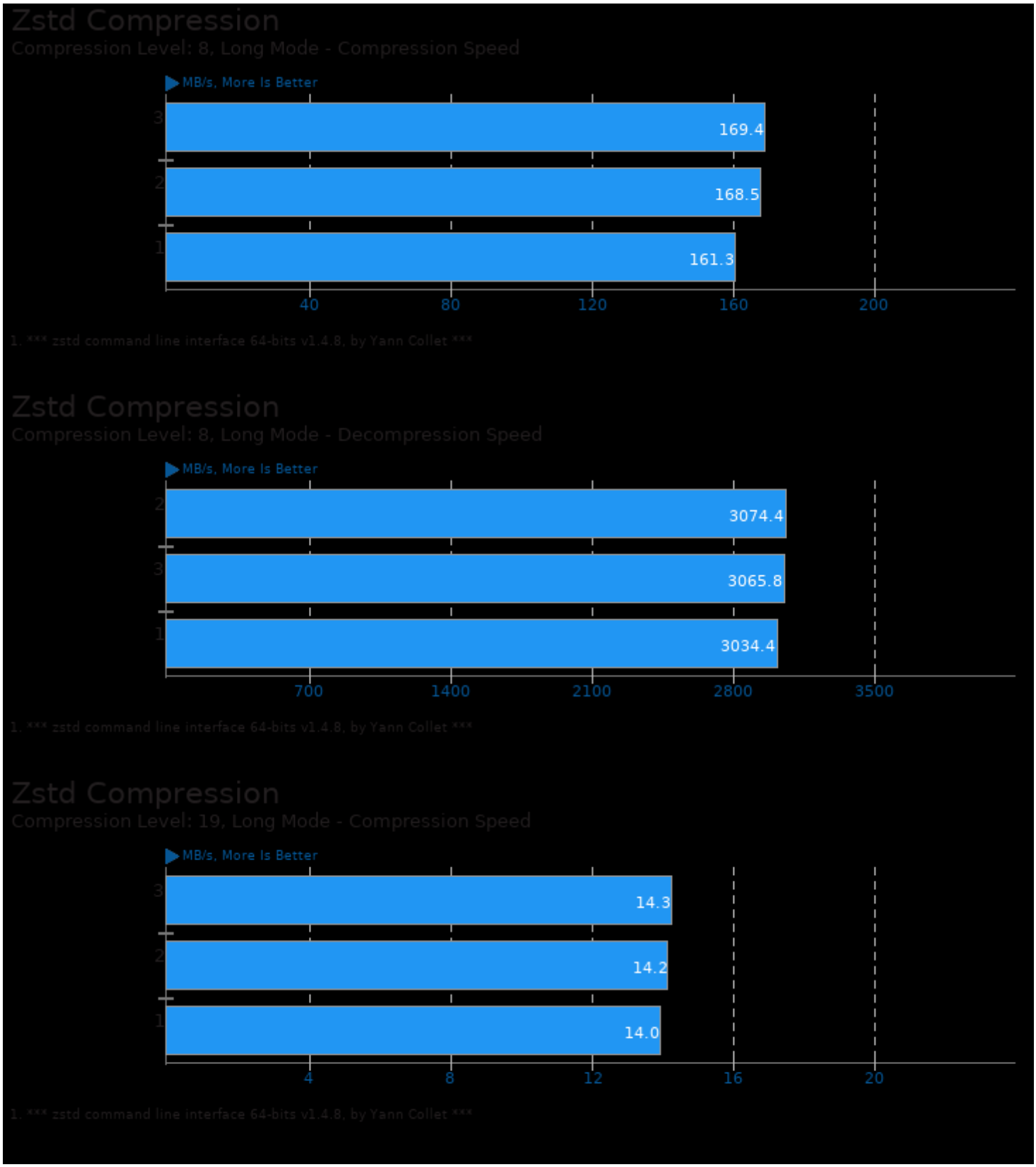
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

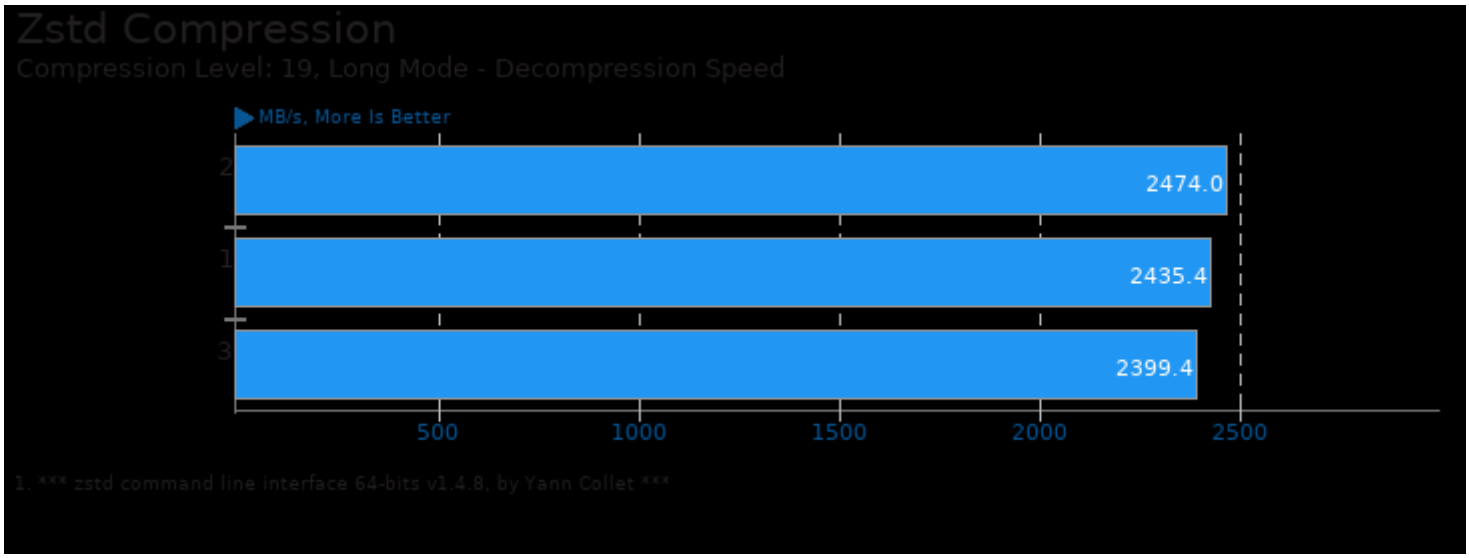
Zstd Compression

Compression Level: 3, Long Mode - Decompression Speed



1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***


Zstd Compression
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
3
2
1
169.4
168.5
161.3
40
80
120
160
200
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
2
3
1
3074.4
3065.8
3034.4
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
3
2
1
14.3
14.2
14.0
4
8
12
16
20
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***



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